

MARINE REVIEW.

VOL. III.

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No. 26.

Demands on the Next Congress.

Some of the Cleveland vessel owners have been discussing matters pertaining to new aids to navigation on the lakes, as the engineers in the different districts are about to make their annual estimates and recommendations. Capt. George P. McKay, of the Cleveland Vessel Owner's Association, who has always taken an active part in the work of securing improvements, and who is in constant communication with engineers regarding the needs of navigation, speaks of some new lights and changes recommended to the government officials.

On Isle Royale, Lake Superior, it is recommended that the Rock Harbor light discontinued some time ago, be re-established on account of the increasing trade in that part of Lake Superior and the need of a harbor of refuge at that point. It was on the south side of the island, just east of the location of the light, that the propeller Algoma was lost a few years ago. At the southwest end of this island is the Rock of Ages where a light and fog signal are also badly needed. Vessel owners have several times asked for a light at this point but it has been claimed that the expense would be too great. Capt McKay says that Col. Ludlow is of the opinion that a light can be erected here for \$150,000. This rock is at the entrance to Washington harbor where vessels seek refuge in north-east and south-east gales.

On both sides of Keweenaw point, the most dangerous part of Lake Superior, some changes and new lights are proposed, Bete Grise bay on the east side, near the northern extremity of the point, is a good natural harbor of refuge. Some years ago when copper mining was active in the Lac La Belle district, inland from Beta Grise bay, a light was established here, but the lanterns were removed later to Marquette breakwater and afterward destroyed. The structure at Lac La Belle could now be fitted up at a very light cost, however, and the bay would furnish a safe harbor for vessels forced to seek refuge while trying to round Keweenaw point. On this west side of the point, it is proposed to move the Eagle river light about eight miles west, or nearer the canal entrance, as vessels bound down the lake fall in with the land at the point proposed, which is about fourteen miles above the canal entrance. Still further west on Fourteen-Mile point where the Idaho was ashore a few days ago, a light and fog whistle are needed. On this same shore, twenty-five miles west of Ontonagon and at the west end of the Porcupine mountains, is Lone rock a spot that marks a most dangerous part of the big lake. Here a light and fog signal and a life saving station will be asked for. This is the first point of land made by vessels engaged in the heavy ore trade out of Ashland.

The government has been spending thousands of dollars on a harbor at Grand Marais, further down Lake Superior, and the work is nearing completion. Here, also, a light and fog station will be required and will probably be secured without difficulty. Still farther down the lake and fifteen miles from Whitefish point is Vermillion point. The vessel owners have been endeavoring for several years past to get a light and fog signal at this point and the effort will be renewed in the next congress. Passing down to the Detroit river below Detroit, the center of the passing commerce of all the lakes, range lights will be asked for on the main land above Grassy and Fighting islands to assist vessels in entering the passage between these two islands, as many boats

fetch up in the shoal water at the head of the island, not knowing when to make the turn. An effort will also be made to secure additional range lights at Grosse Isle that will enable vessels to make the channel between Mamy Judy and Fighting island and clear the lower end of Fighting island in taking up or leaving the ranges established last spring at the head of Grosse Isle. It is expected also to secure a light-ship in American waters at Bar point, taking the place of the present light-ship maintained by private subscription. A light-ship on Starve island reef is the only new aid as yet proposed for Lake Erie.

The Pride of the Lakes in 1840.

The resurrection of the schooner Algonquin, one of the first to engage in the Lake Lake Superior trade, is of unusual interest, and the suggestion that she be rebuilt and rigged out for exhibition at the World's Fair is worthy the attention of marine interests. Dredging Contractor Moran unearthed the hull at East Superior and it was drawn out onto the shore. The Algonquin was built at Black River in 1839 by Capt. G. W. Jones. She was 60 feet long and 15 feet beam, had two masts and could carry from 50 to 60 tons. Capt. J. D. Angus, still living at Bayfield, Wis., decided to put the vessel into the fur trade on Lake Superior and hauled her nearly two miles overland around St. Mary's falls. The then large schooner did a passenger and freight business that might be envied by some of the large line boats of today. She carried flour from the Sault to Superior for \$1.25 a barrel and her arrival at Superior created more of a sensation than the launching of a whale. Shortly after the boat was sold to Anton Gordon she sprang a leak at the Superior dock, where she has quietly lain for a quarter of a century. Capt. John McKay, Capt. George P. McKay's father, moved to the Sault in 1845 to take charge of the Algonquin which was then engaged by a Boston firm that was prospecting for copper. Captains Rockwood, Goldsmith and Southwick commanded the vessel at different times. It is probable that the recovery of this pioneer commerce builder on the lakes will be celebrated at Superior with appropriate ceremony.

Trimming Charges.

Vessels in the ore trade have managed to trim their own cargoes in a few cases at upper lake ports, and on two or three occasions boats have left with light loads doing no trimming at all. This is one branch of the trade in which there has been no reduction, but it would seem as though the trimming charges must come down with the opening next spring if not before the close of the present season, as there is a general disposition among vessel owners to assist in bringing about lower rates. The matter was talked over by Cleveland vessel owners before the beginning of business in the spring and a committee was appointed to confer with the railway managers at the shipping ports. This committee made some inquiry with a view to securing protection for vessels' crews in event of the work being done without the assistance of the regular trimmers for a few early trips, but the inquiry ended on account of the more serious trouble on the docks at lower lake ports.

Gen. Poe is expending \$50,000 in dredging the middle ground at Port Huron. About 11,000 cubic yards of mud has been removed.

Lake Freight Situation.

A few cargoes of grain in sight at this time would boost the lake freight market to a position that would insure fair profits for the vessel owners. As it is, rates have gone up during the past few days and there is every assurance that the situation has changed for the better. Ten days ago a Cleveland shipper whose business in ore is not very extensive had a block of 20,000 tons for which he found a vessel owner ready to accept 55 cents from Escanaba. He wanted the ore carried at 50 cents and refused to accept the 55-cent offer. Today it is doubtful if tonnage could be found for the same ore at 70 cents. This is simply an illustration of the change. Wild rates have advanced to 65 cents from Escanaba and 90 cents from Marquette and Ashland, with indications favoring an advance in the Ashland rate.

Delay in the ore movement and improvement in the iron business is the cause of activity that now promises a season fairly remunerative. On June 25, just a year ago, there had been shipped from all Lake Superior mines 2,606,435 gross tons of ore and the output was at the rate of 335,000 tons a week. Shipments up to this date of the present season do not aggregate more than 500,000 tons. As already explained, this is counteracted in part, of course, by the surplus of 2,400,000 tons remaining on dock when navigation opened, but the season has been shortened by more than two months, the coal movement is heavy, grain will be somewhat more plentiful than last year and there is every reason for the opinion that the iron furnaces will continue active operations, as they have an advantage over last year of \$2 or more a ton on pig iron through reductions in prices of iron ore, coke and labor.

Duluth grain shippers paid $2\frac{1}{4}$ cents on a few cargoes during the week and the amount of grain in store at that point Monday, 2,453,910 bushels, showed a decrease of 63,661 bushels.

Coal Movement and Coal Freights.

Although it is certain that the shippers of soft coal will endeavor to make a big addition to last year's shipments of 3,107,816 tons from Lake Erie ports, their expectations may meet with disappointment in sympathy with other branches of the lake trades, on account of the general change in conditions, brought about by the delay in handling ore. The freight contracts on soft coal to run through the season comprise about 500,000 tons for Duluth and a block of 175,000 tons to go to Manitowoc, Ashland and Milwaukee. All but 25,000 tons of Duluth coal is covered at 50 cents, a large portion of it being held by the Wilson line and the McDougall barges. The 25,000 ton lot is covered at 45 cents, while 50 cents is the rate on about 150,000 tons of of the coal going to Manitowoc and Ashland. The Manitowoc and Ashland coal is, of course, being worked off in wild cargoes at 45 cents, thus allowing a margin on the contract. Within the past week a 50,000 ton block to go to Green Bay has been offered on the market at 50 cents a ton, vessel owners being asked to take all or any portion of it, but the rate is considered too low. The sale of the coal is based on a 50-cent lake freight and the shippers refuse to go above this figure, although the wild rate so far to Green Bay has been 60 cents. One boat the Donaldson, was secured Monday at 50 cents, but it is not thought that this will bring the wild rate down to that figure, as the Donaldson was one of a tow that was about to move and coal has been scarce on account of the larger portion of the fleet being held at lower lake ports.

Buffalo is ahead of last season in shipments of hard coal but the movement from Ohio ports so far is, if any, a little lighter than that of a year ago, and the increased demand for ore would certainly indicate a shortage of cars from this time on. Whether the coal shippers are to be disappointed on this account in their expectations of an increase over last season's movement is a question of great importance, but the vessels have an alternative

in the hope of having ore rates reach a point that will permit of up trips without loads. A surplus of vessels during the past week has made coal scarce and wild rates have been a little weak, but there has been no reduction with the single exception of the Green Bay cargo noted above. One boat was placed for Port Arthur at 45 cents, but the Duluth rate still holds 50 cents, with Portage at 55 cents, Marquette 50 cents, Chicago and Milwaukee 60 cents, Manitowoc, Gladstone and Escanaba 45 cents, Racine 60 cents, Lake Huron ports 45 and 50 cents, St Clair river ports 35 cents and Detroit 30 cents.

Lake Builders Bid on Four Coast Light-Ships.

That four more government light-ships for coast service will be built on the lakes is quite certain for the reason that on the last light-ship bids the highest bid of lake builders was lower than the lowest bid of coast builders. The four ships for which bids are requested will be delivered at Staten Island, Delaware river and Charleston, S. C. Their dimensions are 118 feet 10 inches over all, 110 feet keel, $26\frac{1}{2}$ feet beam and $14\frac{1}{2}$ feet deep, with a 17x17 h. p. engine which will turn a six-foot wheel. The boilers will be single ended 9x8 feet. The material in the hull is to be iron and No. 51 is to have an electric light plant, consisting of two dynamos and two engines, the switch-board to be fitted with a flash device that can be used for telegraphic signals. The appropriation for these ships is \$280,000.

Lake Built Steamers on the Atlantic.

The ocean steamship Mackinaw, built by F. W. Wheeler & Co., West Bay City, on her recent voyage from Newport-News to Progreso, Mex., and thence to New York with a cargo of hemp, showed excellent speed and fuel economy. Although she had a continuous north east wind, varying from a fresh breeze to a gale on her return, W. H. Jenkins, captain, and J. C. Long, chief engineer, certified that there was consumed on the whole voyage, both ways, $14\frac{3}{4}$ tons of coal per day. The Mackinaw's machinery was constructed by the Frontier Iron Works of Detroit. The companion ship Keweenaw has probably arrived in New York from West Bay City by this time.

The American Steel Barge Company now has three of the whaleback vessels on the coast that were built at its West Superior yard at the head of Lake Superior. They are the steamers Colby and Wetmore and barge 110, and were all run down the St. Lawrence rapids within the past ten days, their cargoes being lightered at Kingston and reloaded at Montreal. The Wetmore goes direct to Liverpool from Montreal, having cleared for that port from the head of Lake Superior.

Canada's Load Line Act.

Canada is also about to have a load line act for ocean going vessels. Mr. Tupper in introducing the bill said that the imperial act, which would come into force in October next, had been passed, and would apply to ships of Canada clearing outward from England if Canada did not in the meantime enact legislation fixing the load line for vessels. Canadian vessel owners had by petition pointed out that owing to the extra buoyancy of Canadian wooden vessels and, for other reasons, the imperial load line could not be applied to them without seriously lessening their carrying capacity. The bill proposed if possible to fix a maximum load line, but in fixing of a line to secure the interests of the owners it proposed that the owner should be included in the settling of the load line, and should have associated with him a Lloyd's surveyor, one from the French bureau, or a surveyor duly authorized by the governor-in-council.

Official Numbers and Tonnage.

The bureau of navigation, William W. Bates commissioner, assigned official numbers to the following lake vessels during the week ending June 20: Steam—John Duncan, Milwaukee, 1,267.81 tons gross, 697.07 net, No. 76,960; Loe Roy Brooks, Toledo, 39.19 tons gross, 22.88 net, No. 141,143; Vulcan, Detroit, 17.05 tons gross, 9.99 net, No. 161,658.

To Entertain Members of Congress.

In accordance with an invitation extended to members of the senate and house committees on commerce and rivers and harbors about the time of the close of the last congress, a number of leading members of both branches of congress will make a trip to Lake Superior in a few days, for the purpose of acquainting themselves with the extent of commerce on the lakes. Mr. Charles Moore, Senator McMillan's secretary has evidently had the matter in mind since the invitation last fall was announced, as the vessel owners of Detroit are the first to begin preparations for the entertainment of the visitors. Among the distinguished gentlemen expected are: Senator Frye, chairman of the committee on commerce; Hon. T. J. Henderson, chairman of the house committee on rivers and harbors; Senators Vest and Sawyer and Congressmen Clark of Wisconsin, Townsend of Pennsylvania, Blanchard of Louisiana, Lind of Minnesota, Catchings of Mississippi and Gibson of Maryland. Congressman Johnson and Taylor of Cleveland, will in all probability join the party here.

Detroit vessel owners have selected a committee on entertainment consisting of Captains Eber Ward, James Millen, E. M. Peck and Joseph Nicholson and Messrs. J. H. Farwell, W. Livingstone, Jr. and David Carter, and the Cleveland Vessel Owners' Association and Lake Carriers' Association will meet this week to co-operate with the Detroit association. The guests will be met at Cleveland by the revenue cutter Fessenden and will arrive in Detroit July 11. On the following day they will be taken to the St. Clair flats and dined at the St. Clair club, leaving for Mackinaw the same evening. After a day spent at Mackinaw as the guests of the Detroit, Cleveland and Buffalo vessel owners, the distinguished party will be given up to the care of Representative Stevenson of the upper Michigan peninsula, who will look after their enjoyment in a visit to Sault Ste. Marie and the head of Lake Superior. Whether they will go down the Mississippi river or return down the lakes has not yet been decided.

In General.

On or about July 1 an order will be issued by the secretary of the treasury directing all officers of the revenue marine to provide themselves with the regular navy uniform.

The United States lighthouse steamer Armeria, which supplies every lighthouse on the Atlantic coast from Maine to Texas, takes just a year to go around the 784 light stations and fog signals.

This week two small boats, the Sea Serpent and Mermaid, respectively 14 and 15 feet long, left Boston for Great Britain, being navigated by Captains Lawler and Andrews, two men who have made such voyages before, the former in the Norton life boat Never Sink, the latter in the Dark Secret. Their action is foolishly bold as there is little if anything to be gained from it.

A battery of seven submerged flue boilers that are being built by a Pittsburgh firm for a large steel works in West Superior, Wis. are said to be the heaviest in the country. Each of the boilers is 10 feet in diameter and 30 feet long, made of 1-inch steel, and containing 236 4-inch flues, 20 feet long. They weigh 40 tons each, and will have to be transported upon cars built especially for the purpose.

The value of the mineral products of Great Britain during 1890 amounted to \$463,000,000 an increase of \$100,000,000 over the previous year, the coal output being responsible for most of that. The increase in the value of iron was \$10,000,000 although the quantity was less, indicating a marked increase in price. Estimating the colonies in addition to this the total valuation of productions in British possessions hardly equal that of the United States which was for 1890 over \$670,000,000.

A few days ago The Lackawana Iron and Steel Company sold 40,000 tons of steel rails to C. P. Huntington of the Southern Pacific Railway Company at \$30 a ton. This price has ruled since Feb. 1, but it is the opinion of Mr. James M. Swank of the American Iron and Steel Association, and others well posted in affairs pertaining to the doings of the American Iron and Steel

Association that by the time Mr. Huntington will be ready to use all his purchase the price will be higher than it is at present.

From data recently gathered by the interstate commission while in session at Spokane Falls, it was shown in evidence that only two vessels arrived at Puget Sound with merchandise from Atlantic ports during the six months ending Jan. 1, 1891, and that during the year ending last April only eight vessels came into Portland with merchandise from Atlantic ports. According to this the railroads stretching across our continent have not much fear as regards ocean tonnage going around Cape Horn. How will it be when the Nicaragua canal is completed?—Marine Journal.

On July 1, next Wednesday, the signal service will be turned over to the control of the agricultural department. Gen. Greely, Major Dunwoody and Lieut. Glassford will continue to perform duty in connection with the weather service until the civilian head and assistants of that branch have been appointed and broken in. Of the fifty sergeants of the new signal corps to be appointed, only sixteen have received their warrants, but forty in all have been selected and the remaining ten will be by July 1. About twenty-five per cent. of the men will be taken from the line of the army.

The steam steel yacht Wild Duck, launched from the Atlantic works, East Boston, is owned by John M. Forbes, and was designed by Burgess. She cost about \$110,000, and she is different from all other steam yachts in that she is a complete sailing vessel with center-board as well as a steamer with a feathering propeller. The Wild Duck is 125 feet long on the water line, 154½ feet over all, has 23½ feet extreme breadth of beam, and is 12 feet 6 inches deep. She has a triple cylinder expansion engine of 400 horse-power; 10, 14¼ and 28½x18 inch stroke. Her boiler is of the French Belleville patent, with its tubes so arranged that an explosion is next to impossible.

A steamship to cross the Atlantic in three days is coming within the sphere of practical engineering and naval architecture, if we are to place any reliance on the opinions of Mr. Carl Schurz, of New York, the President of the Hamburg-American-Packet Company. In connection with the foregoing we may state that some of the most prominent shipbuilders on the Clyde have been credited with the intention of building a steamer which will be able to cross the Atlantic in five days. In the meantime, however, the builders of the City of Paris and the City of New York have so far taken the matter out of the sphere of speculation as to produce a model of a steamer which is designed to cross the Atlantic in five days.—Engineering

Cleveland Matters.

Thomas Manning, Jr., secured the contract for the boilers and machinery of the steam fog signals in the Ninth light-house district.

The big steel ore carrier E. C. Pope is down from Lake Superior with another load of ore, this time 2,647 gross tons. She logged a little over 14 miles an hour, loaded, on Lake Superior without being greatly pushed.

The Cleveland Wheelbarrow and Manufacturing Company has purchased the business, etc. of the Cleveland Wheelbarrow and Truck Company, the only change being the retirement of E. F. Wright, succeeded by J. W. Hornsey, who becomes secretary and treasurer of the new company.

It is not probable that any effort will be made for the present at least to raise the sunken schooner Fayette Brown. Her stern is all knocked out. The cargo was insured for \$10,000. The owners of the vessel will, of course, look to the Northern Steamship Company for a settlement of loss on the boat as well as a season contract.

Mr. J. C. Gilchrist says there is no truth whatever in the story that the steamer John Craig was 10,000 bushels short on a Chicago grain cargo. She was trimmed by colored men, and left Chicago with a light load, but there was no shortage in the cargo. The schooner H. C. Richards was 386 bushel over on a cargo delivered at Sarnia.

The dock property at the foot of Superior street, which the Detroit and Cleveland Steam Navigation Company has now secured beyond doubt, is certainly the most desirable in the city. The dock front is 498 feet long and there is an average depth of 112 feet. The excursion business of the company will undoubtedly increase wonderfully when the docks are equipped for service and the increase in freight business from additional railway facilities can hardly be estimated.

CHICAGO LAKE INTERESTS.

WESTERN OFFICE, MARINE REVIEW,
No. 210 So. Water Street, CHICAGO, Ill., June 25.

How closely is linked every interest in the lake marine was shown by the result of the settlement of the ore handlers' strike at Lake Erie ports. Grain rates quickly advanced because of the settlement of labor troubles in an entirely different branch of commerce. It is too bad there are not two or three millions more bushels of grain in Chicago elevators. If there were, the disastrous part of the season would be that part which is past. Grain and ore would react on each other in forcing an advance to 2 cents a bushel. This reaction has been all the other way until now, and ore and grain worked together to depress rates. The visible supply this week shows an increase of 25 per cent. in stocks afloat as well as in Chicago elevators. A few additional cargoes would help general freights.

Improvement of the river here is still by all odds the most important question in Chicago's marine. It is as important to the vessel owner in Cleveland, Detroit and other places as to the owner of floating property who happens to reside in Chicago. The movement for the betterment of navigation here has gone forward in fine shape. The lake line agents' excursion of last week is bearing fruit in a very perceptible change of public sentiment here toward the marine interest. The Tribune, Herald and Journal have come out flatly with the declaration that the river should be improved. In Sunday's Herald Commissioner of Public Works Aldrich had an interview taking the same position in unmistakable terms. Instead of sneers at the "kicks" of vesselmen, a respectful heed is given to their protests against the frightful condition of the south branch. The excursion ought not to receive all the credit of this change, but it certainly started the movement. Even if Canal street bridge remains, great good to the lake marine has been accomplished. All further steals of the river have been stopped, the strength of the marine interests has been shown and the next movement made easier. Hugh MacMillan, William Dickinson and T. T. Morford have been named by the Lake Line Agents' Association as its committee on river improvement, and with them will co-operate J. S. Dunham, J. L. Higgin and J. G. Keith, whom President Egan appointed as the vessel owners' committee. The two committees are to push the war on Canal street bridge and to work for the general improvement of the river.

The business the excursion boats are doing between the lake front and Jackson park is something tremendous. Jackson park, since work on the World's Fair buildings began, has become the greatest pleasure resort in Chicago. People go there by the tens of thousands, particularly on pleasant Sunday afternoons. The cable car line and Illinois Central suburban trains are taxed to their utmost capacity, and every excursion boat that could be impressed into the service last Sunday had all they could carry. It seems strange to see Chicago people rushing in great crowds to get a ride on the lake. If no accident occurs to cause a scare the excursion boats ought to have a rich harvest from now until fall. They probably take in more net profit, not counting wages, on a Sunday like the last one than an 80,000 bushel steamer does in carrying corn to Buffalo. Chicago's lake passenger traffic will show an increase of 40 to 50 per cent. in 1891.

Heath, the Benton Harbor shipbuilder, has done some very creditable work on the government tug Graham, which was in port Sunday on her trial trip. She is 76 feet long, 16 feet wide and 8½ feet deep, has an 18x20 engine and cost \$12,000. The Graham will be placed in river and harbor work on the east shore of Lake Michigan.

The sale of two tugs by Capt. J. S. Dunham to S. C. Schenck of Toledo, shows the tendency towards large powerful boats in Chicago river. The F. I. Butler and the Uncle Sam were in fine condition, and a few years ago were just the thing for Chicago river towing. But the south branch has got into such shape that they did not have the power required to guide heavily laden craft around the sharp corners and pass gauntlets, where a foot either way meant heavy repair bills. Capt. Dunham goes out even with the Butler. He paid \$5,000 for her a year ago, spent \$500 in fixing her up and sells for \$5,500. For the Uncle Sam he gets \$3,000, a remarkably low price. Both tugs are considered cheap by vesselmen here. There are thirteen tugs left in the "Diamond D" fleet.

The vessel owners' shipping office will probably have been closed by the time the REVIEW is out. It has been a failure, although this does not infer that any one was at fault. The fault has been in the action of the vessel owners in time past.

Capt. William Harman's patent "jack-knife" bridge is to be given an inspection Thursday afternoon, when Editor Medill of the Tribune, Mayor Washburne, and other people of station and importance will be taken up to Weed street in one of Dunham's tugs by the Lake Line Agents' Association to see the structure. Captain Harman deserves success. He has worked at that bridge for years. People have made fun of him, but he kept right ahead. In this respect he resembles McDougall and the whaleshaped boats. Captain Harman's bridge certainly meets the requirement of a narrow stream, by leaving the centre clear of a bridge pier. Whether or not he has solved all the mechanical difficulties in the way of a bridge

working from the abutments is not certain, but it would not be surprising if the first attempt to solve that difficult problem was not wholly unsuccessful. If the first "jack-knife" bridge is not all that could be desired it is not a sign that the second bridge will not meet the requirements. Very few great inventions have been perfect from the start. The main or pivotal idea has been good, and then improvements have been made.

The tug Uncle Sam has perhaps "made" more tug captains on Chicago river than ever befell the lot of any other boat. Captain Dunham, who believes in new men, kept her partly as a training school, and new tug captains took their first lessons on her. The following is a partial list of those who began their career as "captains" on the "Uncle," as she was affectionately termed: J. R. Sinclair, A. C. Johnson, Geo. Brandstriter, Arthur McGuire, Wm. Smith, John Joyce, Adelbert Dobson, Geo. Green, M. A. Huntley, W. Hammond, E. Van Dalsen, John Quinn, John Sellers, and Rufus Green.

The Whales Shoot the Rapids.

Special Correspondence to the MARINE REVIEW.

KINGSTON, Ont., June 25.—The pilot who is running the whalebacks down the rapids is an old Frenchman named Willette, who is seventy years of age. It is said he knows every inch of the bottom having been on the river all his life. While taking the Colby down the cord of the small bell in the engineer's room broke, but he managed with the big bell and speaking tube. The accident caused great excitement on board. She scraped the rocks two or three times and will go on the dock at Quebec for inspection. The other whaleback, the Wetmore, left on Sunday morning for the rapids. On account of their length it is difficult to keep them in the serpentine course of the rapids.

About two years ago the steam yacht Siesta, owned by W. H. Warner of safe cure fame, ran into and sank the Annie Foster, laden with coal and owned by Jas. Swift of this city. On Wednesday he came with his yacht to this vicinity to fish and went ashore on Horseshoe island. Early next morning Jas. Swift, a marine expert, proceeded to the island with a tug and Mr. Warner was delighted at the prospects of an early release. After the yacht was pulled off he ordered the tug's line to be thrown off, but was astonished on being told the yacht was seized. He then got a hatchet and was going to cut the line, but on second thought desisted. He was towed to the city, where he gave bonds for \$4,000 before being allowed to proceed on his way down the river to his castle. The case will be tried at the next assizes. The value of the lost cargo was \$3,600.

The farmers in this district had about given up hope of having a barley crop this year. When the heavy rain came on it did an immense amount of good and there may be quite a lot of barley go from here to the United States this year after all.

The difficulty about the load line act will be overcome, and Canadian built boats will find no trouble in this connection on the other side of the Atlantic. Hon. Mr. Tupper, minister of marine and fisheries, has introduced a bill in the house of commons providing for the establishment of a load line on Canadian vessels, which will be accepted in England or in any part of the British empire. It has received its first reading, and the probabilities are it will pass without opposition.

Thus far nothing has been done in parliament about the reciprocity in wrecking bill. It looks as if no action whatever will be taken this season or until the proposed conference at Washington between United States and Canadian ministers.

The new steamer North King has begun her trips between Port Hope and Charlotte. She goes across nicely in four hours. Forwarders say they have no reason to complain about the volume of business, but they do complain about the profits, which are small.

It is proposed to erect a \$25,000 monument to Sir John Macdonald on a point in the western part of the city. It will be surmounted by an electric light, which will be of use to vessels entering the harbor.

Capt. Millen on the Tunnel Question.

EDITOR MARINE REVIEW:—Your issue of June 18 contains an article on the tunnel bill purporting to emanate from a prominent Detroit vessel representative, no name appearing. Don't you think from the tenure of the letter that it came from the pen of a prominent lawyer interested in a certain dubious tunnel scheme. I am sure Senator McMillan is not opposed to or would not act against the passage of any tunnel scheme that he thought would be pushed through as a business enterprise, backed by individuals who were characterized as business men and men of standing in this community. We think he would oppose any scheme that had for its founder Luther Beecher or any party or parties who wanted a franchise for speculative purposes. Senator McMillan does not presume to dictate to the city of Detroit. He is only acting in the interest of the city of Detroit, and when a scheme is presented for a bridge or tunnel backed by representatives of Detroit's interests, we think Senator McMillan will do all he can to further these interests.

Respectfully,

JAMES W. MILLEN.

Record of Speed and Big Cargoes.

[Masters or owners are invited to report improvement on this list.]

Iron ore: Lake Michigan—Maryland, Inter-Ocean Transportation Company, of Milwaukee, 3,322 gross, or 3,737 net tons from Escanaba. Lake Superior—E. C. Pope, Dry Dock Navigation Company, of Detroit, 2,648 gross, or 2,932 net tons from Ashland, light draft.

Grain: W. H. Gilcher, J. C. Gilchrist, of Cleveland, 115,000 bushels of corn, Chicago to Buffalo; America, M. M. Drake, of Buffalo, 111,507 bushels of corn, Chicago to Buffalo.

Speed: Owego, Union Line, of Buffalo, Buffalo to Chicago, 889 miles, 54 hours and 16 minutes, 16.4 miles an hour; Saranac, Lehigh Valley Line, of Buffalo, Buffalo to Lime-Kilns, 240 miles, 15 hours and 10 minutes, 16 miles an hour.

Iron Mining.

VALUE OF LEADING STOCKS.

Quoted by Chas. H. Potter & Co., No. 104 Superior St.

Stocks.	Par Value.	Bid.	Asked.
Cleveland-Cliffs Iron Company.....	\$100 00	\$.....	\$ 80 00
Champion Iron Company.....	25 00	.....	.....
Chandler Iron Company.....	25 00	37 00	39 00
Chicago and Minnesota Ore Company.....	100 00	.....	95 00
Jackson Iron Company.....	25 00	90 00	100 00
Lake Superior Iron Company.....	25 00	.....	51 50
Minnesota Iron Company.....	100 00	69 00	71 00
Pittsburg Lake Angeline Iron Co.....	25 00	.....	135 00
Republic Iron Company.....	25 00	27 50	28 00
Michigamme.....	25 00	.....	5 00

The Mastadon, Shafer, Paint River, Monitor, Dunn, Hemlock, Mansfield and Great Western mines of the Crystal Falls district are all engaged in active operations, the idle mines being the Youngstown, Armenia, Crystal Falls, Manganate, Hollister and South Mastadon. The Diamond Drill gives some interesting information regarding these properties. Four of the six mines now idle shipped 79,291 tons of ore last season but it is thought that the deficiency will be made up by increased shipments from the Monitor, Shafer and others. This district is certainly the most active at this time in the Lake Superior region. The shipments of the mines now working aggregated 458,478 tons last season. The Dunn will probably show some increase on its 1890 output of 156,000 tons, and the Shafer has contracted to deliver ore that will almost double the output of last season. The Hemlock, a new shipping mine, has made some sales and is moving ore. Shipments of the Monitor and Mansfield are estimated at 75,000 tons each and the Great Western at 100,000 tons.

On Thursday of last week the big Norrie mine of the Gogebic range surpassed all previous records by sending out 8,600 tons. The Aurora, Colby, Ashland and other big properties, are of course, urging shipments now that there is an active movement but there is little of special interest on the range. Section Thirty-Three recently elected officers as follows: President, William Chisholm; vice-president and treasurer, Samuel Mitchell; secretary, Thomas Pellow; directors, William Chisholm, Samuel Mitchell, T. H. Bushnell, Thomas Pellow and John Perkins. This company is employing about 200 men. The new find at the Pence mine has given fresh impetus to explorations in that vicinity. At the depth of 400 feet a heavy deposit of ore has been reached, of a very fine quality. Cross-cuts show the vein to be over 100 feet wide, and they are still being extended. The Wisconsin Central is laying a track to the Vallance mine, and as soon as completed the first shipment of 5,000 tons of ore, recently contracted, will be made.

It is known that the company now engaged with a big force of men in building a railroad from Champion to Huron bay, Lake Superior, above Marquette, has been figuring with the Boston officials of the Champion company for the business of carrying the ore of that mine. Whether an agreement has been reached or not is not known, but it does not seem as though the railway projectors would push the road with so much earnestness unless something definite regarding business is promised. The Champion mine has been at a big disadvantage in paying 60 cents a ton rail freight to Marquette as against 45 cents a ton paid by Ishpeming mines. The product of the Champion would not, of course, support a railway, but the new road may be looking for patronage from the Republic, and there is also assurance of some business in timber. The mining companies should certainly give earnest support to any railway that proposes a reduction in charges between the mines and shipping ports.

Some of the Michigan newspapers are desirous of knowing why capitalists do not take advantage of cheap labor and other inducements during the present period of depression in the Lake Superior region to explore the thousands of acres of mineral lands at a light cost. The answer is simple. A very close money market for nearly a year past has stood in the way of development and it is a wonder that some of the companies with cloudy relations managed to pull through.

The repeal of the Michigan law providing for specific taxation of mines and the substitution therefor of the system that applies to other classes of property in the state seems to have satisfied upper peninsula interests. In the case of properties where only a very small amount of ore has been produced in the past the new law will increase the taxation, but instances of this kind are very rare.

The Buckeye, a new Menominee range mine about a mile west of the Commonwealth company's new find, is booked for an output of 20,000 tons. Among parties interested in the mines are Edward Scofield of Oconto, T. A. Brown, D. W. Ingersoll and E. C. Eastman of Marinette and P. B. Gates of Minneapolis.

The unwatering of the sixth, the lowest level in the old Saginaw mine which remained idle for a long time, has begun and it would seem as though the property is to present favorable results. The stock pile contains about 8,000 tons of ore.

Mining operations have been resumed by the Platt Iron Company on its property adjoining the Wheat on the Cascade range. Mr. Charles L. Lawton, son of Commissioner C. D. Lawton, is in charge as local agent.

The Whalebacks of Long Ago.

In a magazine article published recently Horace See, N. A., of New York, called attention to the whale-shaped barges constructed many years ago by Ross Winans, the locomotive builder of Baltimore, and now the Marquette Mining Journal has discovered some information regarding the boats contributed to the Baltimore American by C. C. Fulton in 1874. The correspondent says: "While coming out of the harbor at Southampton a singular-looking steamer was descried in the distance approaching us, which attracted general attention from the peculiarity of its construction. It was steaming toward Southampton from a trial cruise in the British channel, and we soon discovered it to be the Winan cigar steamer built on the Clyde. She passed within a few hundred yards of us, and we had a very good view of her. The whole plan of her construction has been changed from that of the first steamer built by Mr. Winans in Baltimore, which still lies at his wharf in South Baltimore. The cigar shape of the hull has been retained, and seemed to be fully 400 feet long, but instead of a wheel in the center, it has two propellers at the extreme points of the cigar, fore and aft, only half of which were submerged. The propellers seemed to have but three flanges, and were slowly flapping on the water, looking almost like the flukes of a whale. Indeed, its whole appearance as it moved along was that of an ordinary ocean steamer perched on the back of a whale. The cigar portion of the hull was of much greater width in the center than the deck, and was the only portion of the vessel that was submerged. The ends of the cigar on which the propellers are fixed protrude beyond the deck fully forty feet fore and aft, and the hull is supplied with masts, rigging and sails. It was moving towards the docks slowly, and we had no opportunity of judging of its speed. No one seemed to know anything about its speed, its operations being conducted under strict secrecy. Indeed, it not only slowed down, but actually stopped for a few minutes whilst we were passing, apparently for the purpose of preventing us from forming any opinion as to its capacity. This is said to be the usual custom when passing any vessel. We hope our townsman may be ultimately able to astonish the world by attaining a speed of 20 miles an hour by propulsion alone, which is said to be his hope and expectation. The other steamer, built at Cherbourg, in France, is also at Southampton. It is called the Walter Winans, and both are fully officered and make frequent trial trips in the English channel. It will thus be seen that the application of Mr. Winans to congress for the renewal of his patent is with the full expectation of yet accomplishing a great revolution in steam navigation."

MARINE REVIEW.

DEVOTED TO THE LAKE MARINE AND KINDRED INTERESTS.

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The books of the United States treasury department contain the names of 3,510 vessels, measuring 1,063,063.90 tons in the lake trade. In classification of this fleet the lakes have more steamboats of 1,000 to 2,500 tons than the combined ownership of this class of vessels in all other sections of the country. The classification is as follows:

Class.	Number.	Tonnage.
Steam vessels	1,527	652,922.25
Sailing vessels.....	1,272	328,655.96
Canal boats.....	657	67,574.90
Barges.....	54	13,910.09
Total.....	3,510	1,063,063.90

According to the report of William W. Bates, United States commissioner of navigation, 46 per cent. of the new tonnage of the country was built on the lakes during 1889. This is a percentage greater than the work of the Atlantic coast and western rivers combined, and almost equal to the whole work on the Atlantic and Pacific coast. In 1890 the tonnage built on the lakes is but very little less than that built on the Atlantic and Gulf coasts. Tonnage built on the lakes during the past five years was as follows:

	No. of boats.	Net Tonnage.
1886.....	85	20,400.54
1887.....	152	56,488.32
1888.....	222	101,102.87
1889.....	225	107,080.30
1890.....	218	108,515.00
Total.....	902	393,597.03

St. Mary's Falls and Suez canal traffic: Number of boats through St. Mary's Falls canal in 1890, 234 days of navigation, 10,557; tonnage, net registered, 8,454,435. Number of boats through Suez canal during 1890, full year, 3,389; tonnage, net registered, 6,890,014.

Tonnage passing through Detroit river during 234 days of navigation in 1889, amounted to 36,203,606 tons. Ten million tons more than the entries and clearances of all the seaports in the United States, and three million tons more than the combined foreign and coastwise shipping of Liverpool and London.

Entered at Cleveland Post Office as Second-class Mail Matter.

CANADA'S disposition to oppose all measures that tend to give equal rights to American and Canadian vessels on the lakes is not confined to Welland canal rebates or the matter of reciprocity in wrecking, about which so much has been said of late. The feeling of antagonism among government leaders is shown at every opportunity. When Mr. Tupper's bill to amend the act respecting certificates of masters and mates of ships was under discussion a few days ago, objection was made to the provision that an applicant for a certificate should be domiciled three years previous to the application, and should be a British subject. It was claimed "that this would practically be creating a guild to the disadvantage of others who had come into the country, and who desired to take masters' certificates." The answer of the minister of the marine was "that the Americans insisted upon residence citizenship in the matter of granting certificates for masters, and that the United States also refused Canada any privileges in regard to the coasting trade. Canada, therefore, in justice to her citizens, refused concessions which were withheld by her neighbor." Whatever may be said of the question of privileges in the coasting trade, it is to be hoped that Canada will pass the act prohibiting the employment of American officers in her merchant marine. Canada has few vessels that offer inducements to navigators on this side, but American vessels are filled with men who spend their winters across the border and who are in many cases little better than aliens. The passage of such an act by the Dominion parliament may be the means of bringing about something more than a half-hearted enforcement of laws regarding alien officers in American ships.

THE Chicago organization of lake line agents is deserving of great credit from the entire lake marine for the persistent and able manner in which it has fought the Canal street bridge outrage. With prompt support from the war department this bridge matter would have been settled by this time and there would be a clear understanding regarding similar obstructions at other lake ports. The war department would shirk responsibility in this duty, although the attorney general has said that "it must necessarily be held under the constitution, the statutes and the decisions that the Chicago river is as unquestionably a portion of the navigable waters of the United States as is the Straits of Mackinac."

THE Engineer of New York takes advantage of a typographical error in the REVIEW, corrected in the following issue, to declare itself on the fuel oil question. Like many other people in New York the Editor of the Engineer is evidently taken up with the belief that there is no place on earth but the metropolis. He declares that it has been proven years ago that fuel oil costs more than coal. This may be true of New York, but he can be shown around dozens of the largest manufacturing concerns in Cleveland where fuel oil is used with a great saving in cost, and this as against the cheap coal of Ohio and Pennsylvania.

AT a meeting of the managers of the Lake Carriers' Association in Buffalo a few days ago it was decided to present to the state department at Washington a memorial asking the department to make the question of discriminating tolls on the Welland canal a subject for discussion before the reciprocity congress to be held in October. Commercial organizations in all other lake cities should indorse this action. The lake carriers postponed action on the proposed code of regulations for navigating narrow channels.

It is not probable that the office of supervising inspector, made vacant by the death of Joseph Cook of Detroit will be removed to Chicago. A great deal of quiet work is being done in connection with the appointment of Mr. Cook's successor, and Detroit vessel owners will probably be found to have some influence in Washington when the announcement of the appointment is made.

The Virginia's Initial Performance.

The steel steamship Virginia gave a promising little performance during a short trip outside Cleveland harbor Wednesday evening, for the benefit of the builders and Chief Engineer Elliott of the Goodrich line. It was not a trial trip and she was taken out merely to turn her engines over, which could not be done conveniently where she was lying at the yard. The ease with which she handled was noticeable and the tugs that took her out of the river were more ornamental than useful. The engines were turned very slowly most of the time while 90 revolutions were the most that was done. Before being turned to that speed she was making 60 revolutions, and when she was given the extra turns the increased speed was very marked. No effort was made to time her but at 90 revolutions she made an estimated speed of 15 miles an hour and with 60 revolutions she was going about 12 miles. Her speed capability can be imagined when it is known that her engines are expected to make 130 turns, over twice as many as were made when she was running 12 miles per hour. The stability of her deck and the smooth working engines combine in annihilating the jarring motion that is so tiresome. As far as that is concerned one would not know whether the engines were working or at a stand still.

The crew of the new passenger steamer is as follows: Capt. Bernard Sweeney, Chief Engineer Robert E. Walker, First mate Frank Marquette, First Engineer John O'Mara, Second Engineer Thos. Creighton, Steward F. F. Healy. The clerk, C. F. Kanright, was delighted over the trip and thought that it was only a promise of what she will do. Robert Hay was in charge of the engines. The trial trip will probably occur late next week.

Around the Lakes.

Ashtabula will shortly be shipping 500 cars of ore a day to the furnaces.

Dredges are still at work on the bar at the mouth of the Saginaw river.

The brokerage firm to succeed the late Capt. Thomas Collins of Buffalo, will be known as Matton & Boland.

S. C. Schenk purchased last week the Chicago tugs Uncle Sam and Butler for harbor work at Toledo.

The Canadian propeller Campana on her first trip to Chicago in the Chicago and Montreal Line ran into a scow and will need repairs to her bow on reaching Montreal.

Lake Line Agents' Association at Chicago selected Hugh McMillen, William Dickinson and T. T. Morford as a permanent committee on Chicago river improvements.

The underwriters have settled up for the propeller Newcomb, ashore on Lake Ontario, paying for her on the basis of a total loss. She is now their property and is for sale cheap.

Dredging and docking work in connection with the World's Columbian Exposition, amounting in the aggregate to about \$1,000,000, has been secured by O. B. Green, Chicago contractor.

An Oswego man figures that the amount of coal shipped from that port last season was 450,000 tons, of which three-fourth went to Canadian ports on Lake Ontario and St. Lawrence River.

The elevator opened at Fairport this spring has been crowded beyond its capacity and it is now said that another building of 1,300,000 bushels capacity will be erected for winter storage.

Eldridge Cutter of Carsonville, sailor on the Canadian propeller Abercorn, was lost near Port Huron Thursday, and Victor Proult of the crew of the tug F. W. Gillett, fell overboard on Lake Superior.

Wrecker Reid is said to have done some work toward releasing the schooner Golden Fleece, which went on the beach near Dunkirk last season, but there are no indications of the boat being brought into port very soon.

J. W. McGraw, Bay City lumber dealer, has purchased from the Diamond Match Company, Ontonagon, 9,000,000 feet of lumber, on which shipments will be begun immediately. The D. Leuty and consorts Exile and Jackson have been chartered for first loads of the purchase.

Collins & Farwell finished their contract in excavating the new Sault Ste Marie lock pit, and the work is now in the hands of the masonry contractors, Hughes Bros. & Bangs. Collins & Farwell have been engaged in their contract two years and three months. Their contract price was \$240,000 and they have not had a bonanza.

In order to facilitate business communication, the stockholders of the Frontier Iron & Brass Works, corner of Atwater and Chene streets, Detroit, have decided to change its corporate name to the simpler one of Frontier Iron Works. The change will undoubtedly commend itself to the patrons of this concern which is among the best of its kind on the lakes.

Lake shipments from the Saginaw river up to June 1st amounted to 87,116,000 feet lumber, 9,650,000 shingles, and 2,963,000 lath. These shipments are the smallest up to that date in any year except 1888. The shipments from Muskegon to the same date were 58,278,000 feet of lumber, 4,700,000 shingles, and 4,835,000 lath. These shipments are less than the shipments last year.

Customs Collector Plummer, Canadian officer at the Sault, is charged by one of the members of parliament with being in partnership with his brother who is engaged in an importing business and is in charge of the government dock. The government will investigate, as the rules require that a customs collector shall not engage in any other business when his salary is over a certain amount. Importing business is prohibited altogether.

Bids received by the light-house officials on the 16th inst. for the construction and delivery of material for the Chicago harbor light-station were: Russel Wheel and Foundry Company, Detroit, \$16,450; Colwell Iron Works, New York, \$18,193; Phoenix Iron Company, Trenton, N. J., \$27,500; H. A. Streeter, Chicago, (informal) \$30,000. The Russel Wheel and Foundry Company, Detroit, also put in a bid of \$23,400 for construction, delivery and erection.

The largest plank ever shipped on the great lakes, if not in the world, was one sent from Chicago to Detroit on board the steamer P. J. Ralph. It was of red wood, 16 feet wide, 13 feet long and 5 inches thick. It was on its way from California to Detroit, where it will be polished for the World's Fair. Two men accompanied it on the long trip. The plank is but half the tree, showing the middle of the heart and the bark, and was cut 40 feet from the ground, being hewed and not sawed. The steamer gets \$40 freight on it.

In 1861 the tug George H. Parker was built in Detroit by John Stupinski for Mr. Parker of Detroit. She cost a little over \$12,000 and in her first season netted her owner \$3,000 above her cost. But those were the days of many schooners and few tugs. She lived on, bearing her full share of fortune and misfortune, until about four years ago, when she was condemned. Abraham Smith of Algonac bought her and had her taken to that port, where her engine was taken out and the boat rebuilt from the keel up. She has lain there the past four years awaiting a purchaser, and if the present hard times continue she is likely to stay there awhile longer.—Free Press.

Wrecks and Heavy Losses.

The stranding of one of the whaleback steamers Colgate Hoyt on a rock shoal abreast of Topsail island will probably result in the heaviest loss as yet sustained by any of the barges. A hole was made in one of the forward compartments, and, owing to the imperfect condition of the bulkheads, water filled all of the compartments forward of the midships section excepting the first. About 750 tons of the boat's cargo had to be lightered before she was released.

Damages to some of the vessels recently stranded are very heavy. The Idaho will, of course, have a very heavy wrecking bill to pay, and the schooner Sheldon is in very bad shape. The steamer John B. Lyon spent about three weeks in Buffalo as a result of the accident through which her shoe and rudder were damaged and her repair bill amounted to about \$900. A survey on the barge Alaska shows damages amounting to \$3,058, as a result of the collision with the propeller Escanaba.

Notices to Mariners.

Commander Nicoll Ludlow gives notice that the buoy on Drisco shoal, north end of Green bay, which went adrift on or about June 6 has been replaced.

A second class can buoy with red and black horizontal stripes, no number, has been placed to mark Waverly shoal, off Buffalo harbor. This buoy stands near the northeast end of a shoal in 13 feet of water and on stony bottom. Least water 12 feet, about 400 feet southwest of the buoy. The shoal is about 400 feet wide and extends about 700 yards in a northeasterly and southwesterly direction.

Work of the Ship Yards.

Burger & Burger of Manitowoc, have taken a contract to build a steamer for Messrs. Buckley & Nuttall and Capt. Charles Gnewuch of Manistee, Mich. The dimensions of the steamer will be: Keel 150 feet, beam 31 feet, hold 10 feet. She is to be completed by Oct. 1. The boiler is to be built by the Manitowoc Steam Boiler works. It is to be 14 feet in length, 9 feet in diameter and of 11-16 steel and capable of carrying 140 pounds of steam.

Work will be commenced on two more whaleback barges, 117 and 118, at the West Superior shipyard in a few days.

Some important features of the Marsh steam pump are: Absolute actuation and regulation without use of tappets, levers or other mechanical connections; the most economical boiler feeder made; returns exhaust steam to the boiler; heats feed water 40 to 50 degrees, according to tests made by Prof. M. E. Cooley, of University of Michigan.

JULY FOURTH EXCURSIONS: The Erie Railway Co. will sell excursion tickets to and from all stations on the N. Y. P. & O. division July 3d and 4th, returning July 6th, at one fare for the round trip.

Affairs in Admiralty.

SARANAC-ISAAC MAY SALVAGE CASE.

The Saranac-Isaac May salvage case, decided in April by Judge Coxe of the district court, New York, is just reported by one of the law journals. At about 4:30 on the morning of July 16, last season, the steel steamer Saranac of the Lehigh Valley Line discovered the lumber barge Isaac May on fire at a point on Lake Erie about 100 miles W. S. W. from Buffalo. The crew had abandoned the boat and she would have burned to the water's edge but for the assistance of the Saranac. The latter was well equipped for such work and, after about five hours' labor, her master and crew succeeded in extinguishing the flames. The Saranac was bound for Buffalo and towed the May to that city. On the following day a libel for salvage was filed by the owners of the Saranac. Subsequently two libels and a petition were filed on behalf of several members of the crew of the Saranac. The libels were consolidated and tried in one action.

"The testimony as to value is conflicting," said the court, "but the impression left upon my mind, after taking everything into consideration, is that the property saved was worth the sum of about \$4,000. In view of the fact that the salvage service, though properly and gallantly rendered, took place in the day time with very little danger to the Saranac or her crew, and that in towing the wreck to Buffalo she was not required to deviate from her course, it is thought \$1,000 will be a liberal allowance for the entire service. It seems to be expected that the court will apportion this sum among the libelants upon the testimony already taken, without further proceedings before a commissioner. In my opinion the sum awarded should be divided as follows: To the owners, \$325; to the master, \$90; to the first mate, \$50; to the chief engineer, who took an active part in extinguishing the flames, \$50; to the second mate, \$40; to the second engineer, \$25. As all the crew participated in the salvage and as their services were equally meritorious, or nearly so, the remaining sum of \$420 should be evenly divided among them. The proof submitted does not warrant the court in discriminating in favor of a portion of the crew as against the rest, although it is apparent that some, at times, occupied positions of greater hazard than others."

Finding a Lost Ship.

In the month of June, 1854, the English brig Ben Hammond, Captain John E. Clark, passed through the Straits of Sunda, on her way into the Indian ocean, bound for Melbourne. The crew all told numbered eleven people and the brig had a miscellaneous cargo. She signalled "all well" when going through the straits, and that was the last heard of her for five months. Then a sailor named Charles Renfoe, arrived at Sydney and told a very curious story. About forty miles off the strait the brig fell in with a small sandal-wood trader in a sinking condition. The first mate and five of the men went aboard of the trader to help him to make repairs. In the course of four hours they returned aboard with the news that the small craft was now tight and dry, and they brought with them several bottles of wine and some dried fruit as presents from the captain. Captain Clark was a kind-hearted man, and as the men returned aboard he distributed one bottle of wine and a share of the fruit among them. The brig and trader had been slowly drifting off before a light wind during repairs, but now each hauled back to her course and they were soon separated. Renfoe had not been feeling well all day, and he was the only man who did not partake of the stuff sent aboard. It was his watch below after midnight, and he had been asleep about an hour when he was aroused by confusion aboard. Every man on watch below was suffering with cramps and vomiting, and he went on deck to find the same state of affairs prevailing. Captain and mates were down, as well as the men, and the man at the wheel fell to the deck and began rolling around just as Renfoe came on deck. While the brig had all plain sail on her the breeze was light and, as the wheel was made fast, she took care of herself.

There was no doubt that the crew had been poisoned by the wine or fruit, though the trader must have been entirely innocent of any such intent after the services they had rendered. Recourse was had to the medicine chest, but nothing seemed to act as an antidote. The agony of the men increased with time, and by 3 o'clock in the morning four of the foremost hands were dead, while the others were without hope. Renfoe was dazed

and helpless, and he could do nothing but pity the poor fellows around him. Half an hour after sunrise he was the only living man aboard the brig, and as he saw one after another pass away his feelings were wrought up to such a pitch that he almost lost his mind. Time was blank to him for the next ten days, when he was picked up by a trader two hundred miles below the straits, and twenty miles off the Java coast. He was then afloat in the brig's yawl and had neither water nor provisions. He finally got ship from there around to Melbourne. The Ben Hammond had been reported lost in the Indian ocean, but her fate was considered a mystery. She could not be found or heard of, and it was at last concluded that she had gone to the bottom. Eleven years later I passed through the Straits of Sunda on the English ship Prince John, bound for the port of Melbourne. We had scarcely cleared the Java cape when it came on to blow a gale from the west. Three of us were carried overboard by the wave, but I did not see either of the others, and I had no sooner got my eyes clear than I saw one of our quarter boats close to me. I got hold of it and pulled myself in. At about four in the afternoon I sighted land to the north, and an hour later I found myself driving between two islands. Half an hour later a current set me to the right, and I drove in for the land and brought up at the head of a bay or inlet half a mile long and not over two hundred feet wide. Hard aground at the head of this bay with, her bowsprit touching the trees on the shore, was the old Ben Hammond, the long-lost and almost-forgotten brig, her masts standing as plumb as ever, yards braced as they were left years before, but the sails rotted and blown away, and many ropes broken and frayed and streaming in the wind.

I had heard of her loss, and had read Renfoe's story as related by the papers, and it took the pluck out of me to find her there. Indeed, I was so awed and overcome that I did not dare board her that night, but did so next morning. I was desperately afraid of facing a skeleton as I drew my head above the rail, and I made a lengthy survey before I dropped to the deck. There was a great deal of litter about, and much of the exposed woodwork had begun to decay. A more lonesome sight one could not find. I moved slowly from stem to stern, and was relieved when no ghostly relic of the dead presented itself. The brig had the old-fashioned fo'castle, and I noticed the slide over the opening was secured. The cabin doors were also shut. I dreaded to make a further investigation, but hunger and peace of mind compelled me, and I finally entered the cabin. The medicine chest was upset in the main cabin or eating room, and the bottles scattered about the floor. There was a spread on the table, but it was black with mould, and after a brief look, I had to retire until the fresh air could drive out the heavy odors. By-and-by I returned, and when I had looked into the berths and found no mouldering skeletons, a great load was taken off my mind. I had however, to examine the fo'castle yet, but being encouraged by what I had failed to find in the cabin I made short work of it. Not a body had been left aboard. Renfoe must have heaved the dead overboard before he left the brig, although he had no recollections of the act.

In the cook's galley I found everything in good order, and when I looked over the stores in the pantry everything smelled and tasted as wholesome as if only a week out of the warehouse. Within an hour from the time I boarded her I was eating a breakfast prepared in the galley, and was feeling quite at home. When I had satisfied my hunger I opened up the hatches and the cabin skylight, and then turned to and cleared the deck of much of its litter. When things looked a bit more trim I went down and got the chart showing the Sunda islands, and, after a little calculation, I located my position as being on the west side of Lombok island. There were four or five steam engines, a great lot of agricultural tools, furniture in the rough, woodenware of all sorts, scores of cases of boots and shoes and dry goods, and enough, in fact, to make up a cargo valued at £27,000. The brig was as dry as a bone, and after a little ventilation and disinfecting, she smelled as sweet as a peach. I was a week aboard of her before I decided what to do. The small boat was in good condition, and I took on water and provisions, and one morning ran down the straits to the north for the Flores Seas, feeling quite sure of meeting some British vessel before crossing to Borneo. I had scarcely left my island behind when I saw H. M. S. the Dragon bound to the East, and by midafternoon was aboard of her. After sending me back with a guard to hold the brig she returned to Surabaya, on the north coast of Java, and reported to the consul, and within a month everything had been removed from the old Ben Hammond, and she was left to decay.—Engineer's Gazette, London.

One of the Largest Machinery Building Concerns in the World.

The new plant of the Walker Manufacturing Company, Cleveland, was recently put into operation, and being the largest concern of the kind in the country, some information concerning it will be interesting. The machine shop is 170 feet wide and two-thirds of the building is 288 feet long and the remainder 430 feet long. The whole is to be lengthened to 500 feet. Each department has a 30-ton crane. The foundry is 300 feet long by 118 feet wide and is also fitted with several large cranes. The metal will be drawn from two cupolas of 40-tons capacity. Much of the machinery was furnished by the Niles Tool Works, Hamilton, O. The bed of one lathe furnished by this company is 40 feet long. The rope transmission of power is one of the noticeable features of the plant, over two and a fourth miles of rope being used for the cranes alone. At present the plant is crowded to full capacity in turning out cable railway machinery, but the company also makes a specialty of mining machinery and traveling cranes. A 66½-ton spur gear wheel, 30½ feet in diameter, was recently shipped to South Africa from these works.

CHAUTAUQUA LAKE: The Erie Railway will sell excursion tickets to Lake Chautauqua on account of Ohio Teachers' Convention, July 6 and 7, at one-half fare (\$4 35) for the round trip. Good returning up to and including July 13. Call at 141 Superior street, or at Central passenger station, South Water street and Viaduct.

"THE MICHIGAN"

ISSUES POLICIES ON HULLS AND CARGOES ON FAVORABLE TERMS. IT IS FOR THE INTEREST OF THE OWNERS OF THE LAKE MARINE TO BUILD UP A HOME COMPANY BY THEIR PATRONAGE.

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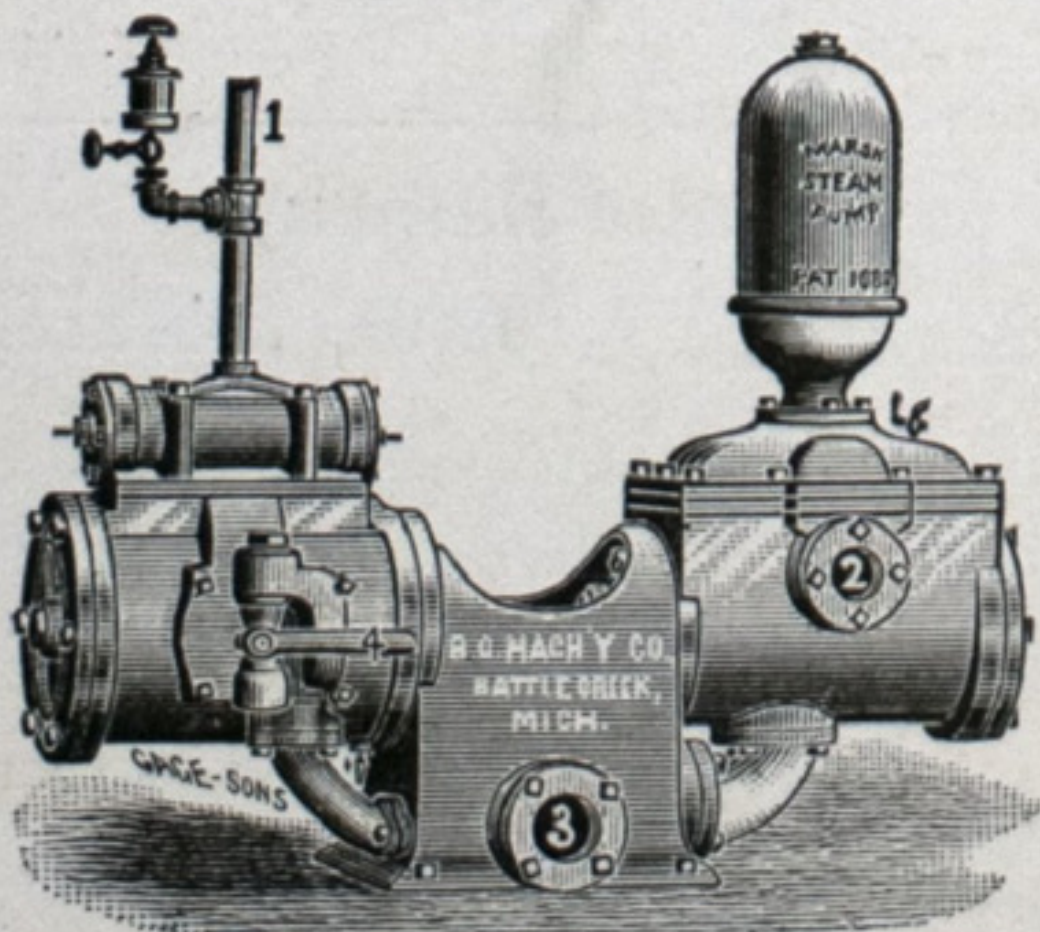
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Monarch Valve Cylinder and Engineers Valve Oils,

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Lake Chautauqua—The Queen of Summer Resorts.

At a lake of cool crystal water, located among the beautiful highlands of the Empire state, over one hundred and fifty thousand people seek each summer season the delightful rest always found in that wholesome atmosphere. Chautauqua—the famous resort—located between fourteen and fifteen hundred feet above the ocean, has unsurpassed facilities for boating, fishing and bathing. When these pastimes are combined with the advantages made possible through the educational and religious organizations, which make Chautauqua lake their summer headquarters, it is surprising that each season, thousands frequent its shores.

With hotel accommodations capable of delighting the tastes of the most fastidious and boarding houses where families may secure commodious rooms and excellent service at reasonable rates, should it be wondered at that people flock from the smoke, dust and heat of our cities to enjoy the pleasures and benefits obtainable on the shores of this "Lake of Springs."

Tourists selecting the Nickel Plate route to this queen of summer resorts, will find accommodations desirable in every appointment. Excellent connection is made for Chautauqua lake at Brocton Junction, N.Y., and from Mayville, N.Y. any point on the lake may be reached via boat or rail. Passengers holding tickets via Nickel Plate to Niagara Falls, may secure stop-over at Chautauqua free of charge.

Be sure your tickets read via the Nickel Plate.

July 30

Belts should be cleaned regularly, and after cleaning, a good belt-dressing should be applied to keep the belt soft and elastic, and cause it to hug the pulley and transmit its greatest power. The use of a good belt-dressing is superior in economy to any other method for correcting slipping or slightly loose belts. The custom of tightening a belt whenever it slips is not a good one. The belt is liable to be made too tight, which heats the bearings and strains the belt. Great care, however, should be taken in selecting a belt-dressing. Castor oil is an article in very general use, but experts have found that it contains an active acid principle, and is drying in its nature. The use of soap, rosin, tar, etc., cannot too strongly be condemned. They are only temporary stimulants and eventually destroy the belt. A belt-dressing that is guaranteed to prevent slipping, and at the same time keep the leather soft and elastic, is certainly worthy of careful consideration. Such is Dixon's belt-dressing, made and sold by the Jos. Dixon Crucible Co., Jersey City, N.J. There is no trouble in applying it, and all who have used it commend it in the highest terms.

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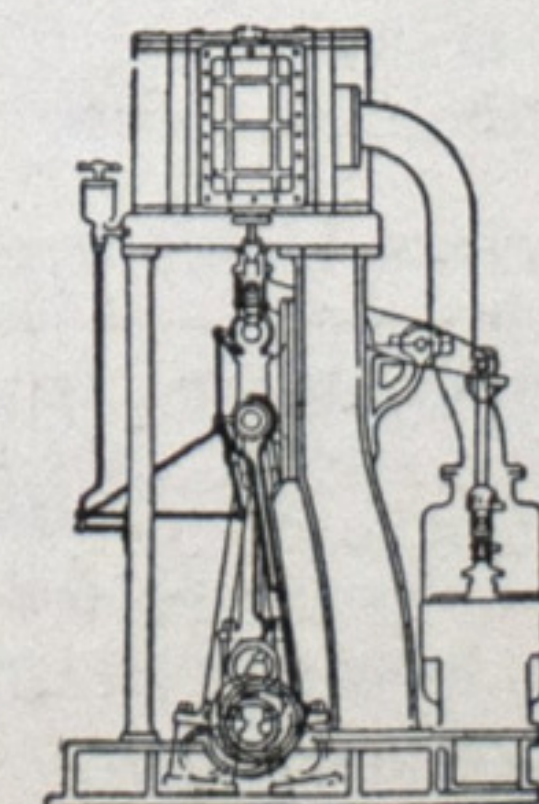
GREVILLE E. FRYER, Sec'y & Treas.

JOHN H. ATWOOD, Assistant Secretary.

Capital, paid up in cash..... \$3,000,000 00

Assets..... 8,951,518.83

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During the past three years hundreds of marine engines of from 2,000 to 4,000 h. p. have been served, as well as high speed electric light engines.

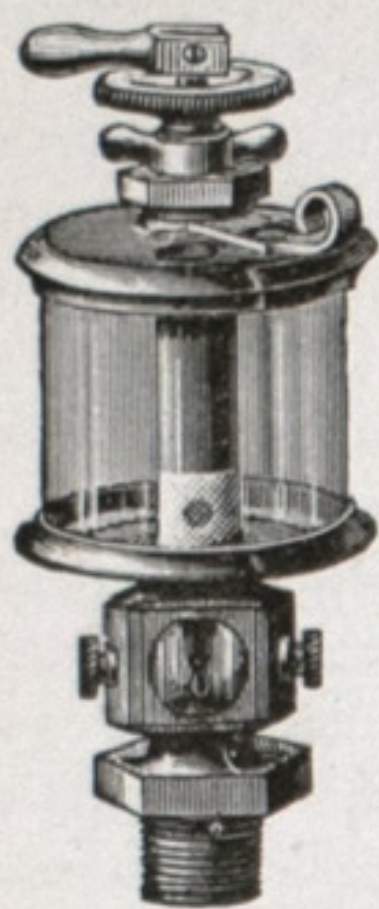
RESULTS:

Sure control of Crank Pin.
Stoppage of Lard Oil account.
Perfectly clean Engine
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Manistee, Mich.
Dark lines indicate apparatus.

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FOR SALE: First-class 32-foot cabin sloop Yacht, JULIA, winner of fourteen prizes, just arrived from New York city; iron keel, cast ballast inside, after part of cabin and inside mahogany; everything complete. Safe and reliable. Can be seen in Cleveland or around Put-in bay. For further particulars call on or address JULIA, 510 Perry-Payne Building, Cleveland, O.

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Will furnish Brand free for Ship Chandlers or other dealers who desire their name and address on packages.

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Tugs, Lighters, Steam Pumps, Hawsers, Hydraulic Jacks and Diving Appliances always ready.

TUG MONARCH, Engine Compound, Cylinder 16 and 30 inches diameter, 30 inch.

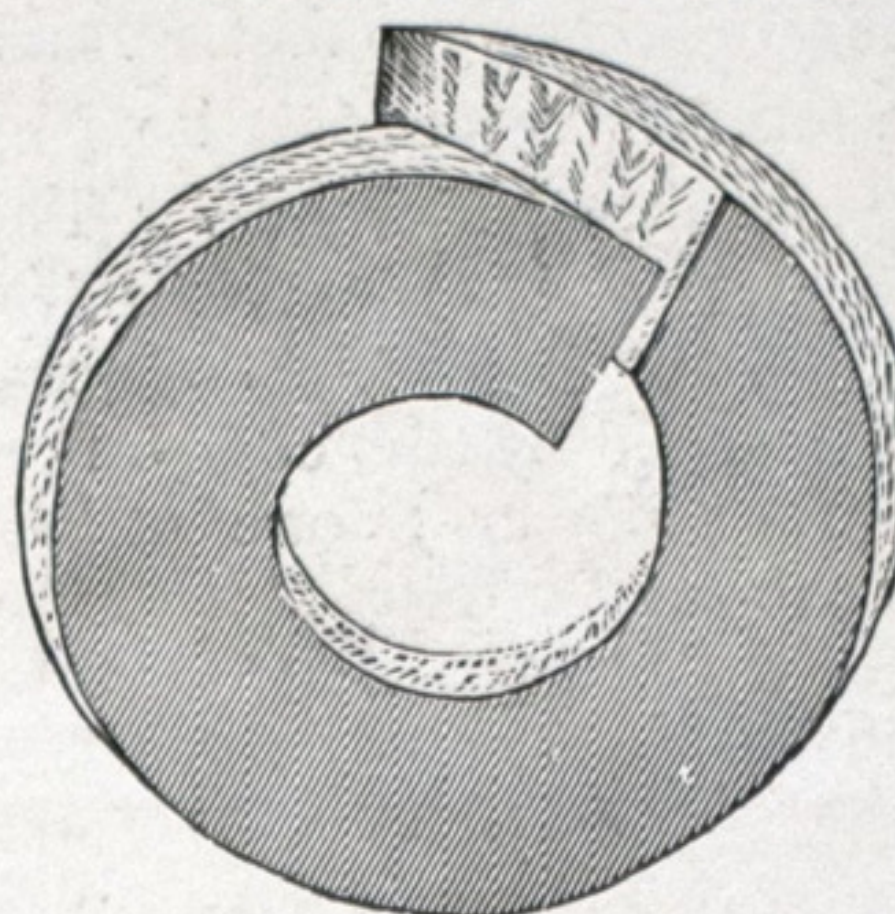
Stroke, Steam Pressure Allowed, 125 pounds.

TUG DELTA, Cylinder 20 by 22, Steam Pressure Allowed, 105 pounds.**TUG OWEN,** Cylinder 20 by 20, Steam Pressure Allowed, 104 pounds.**CENTRIFUGAL PUMPS, Seven and Fourteen Inch Suction.****V.O.T.
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Local Freight	3 50 PM	6 00 AM
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All trains daily except Sunday.		

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	Arrive.	Depart.
Youngstown Accommodation	*7 15 AM	†6 00 AM
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Pittsburg Accommodation	*12 30 PM	*11 25 AM
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Youngstown Express	†9 10 PM	†6 00 PM
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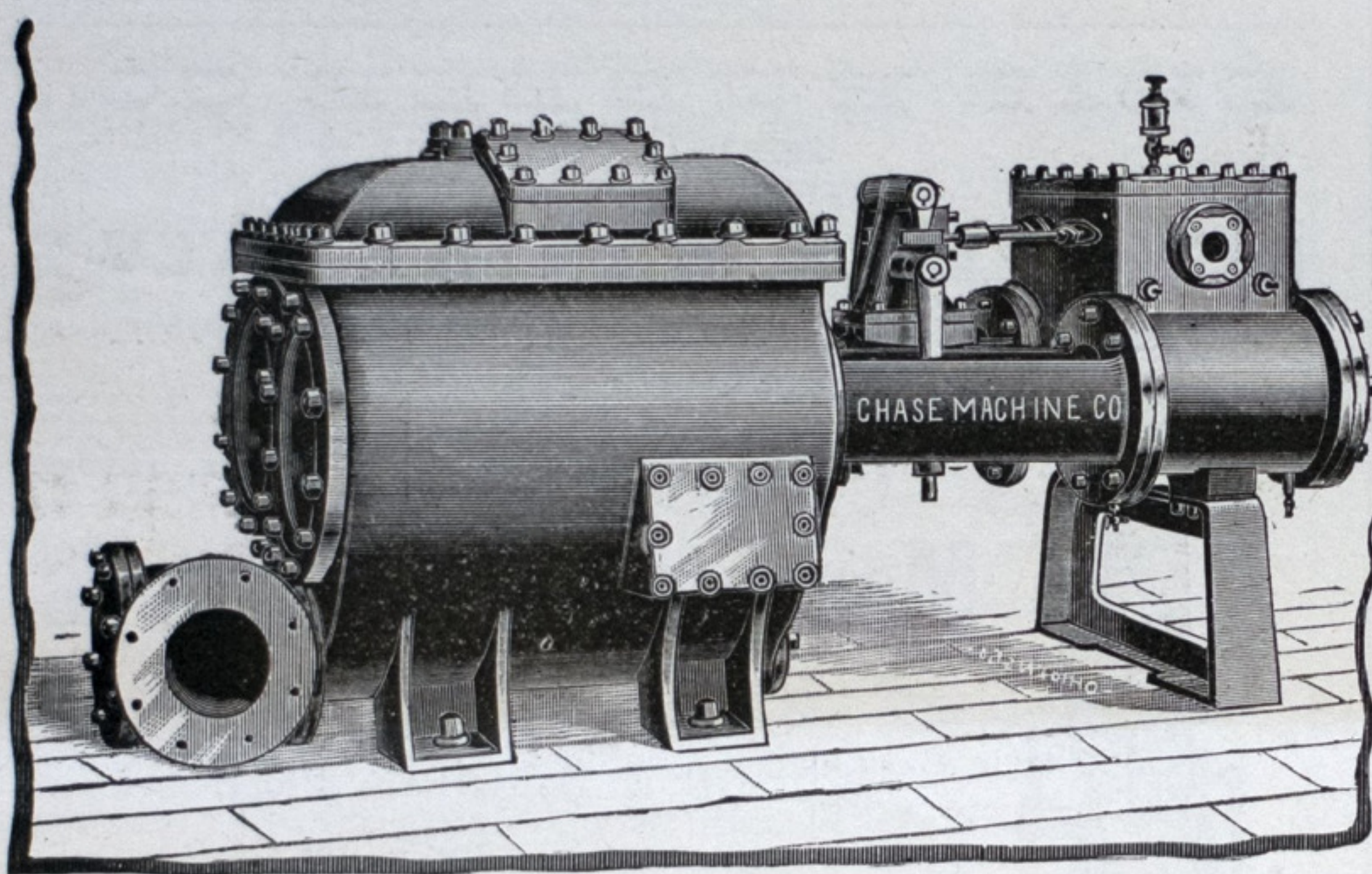


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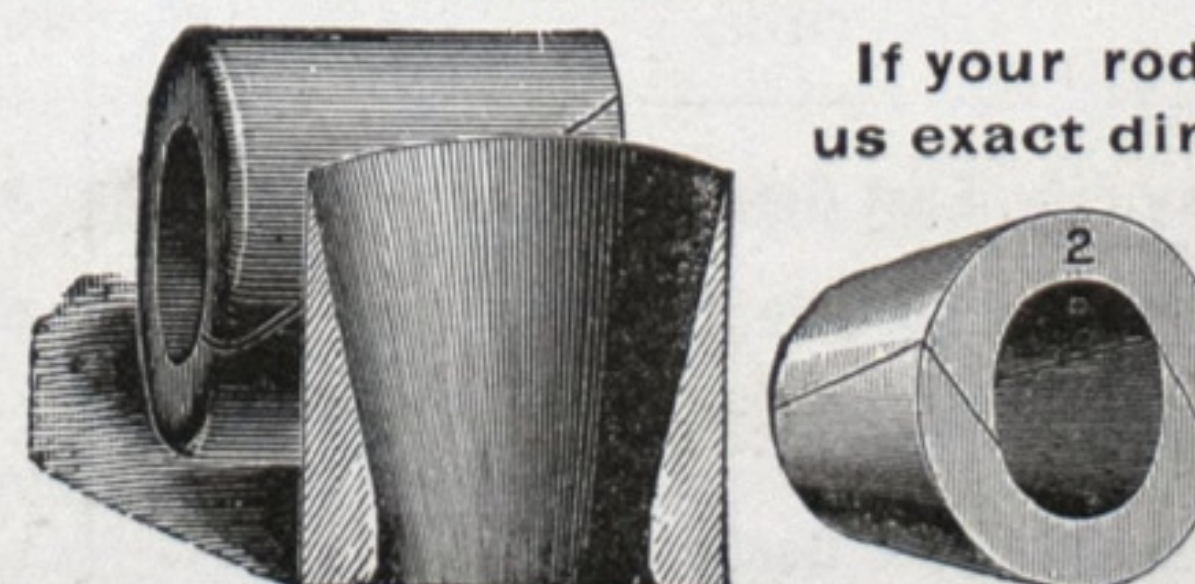
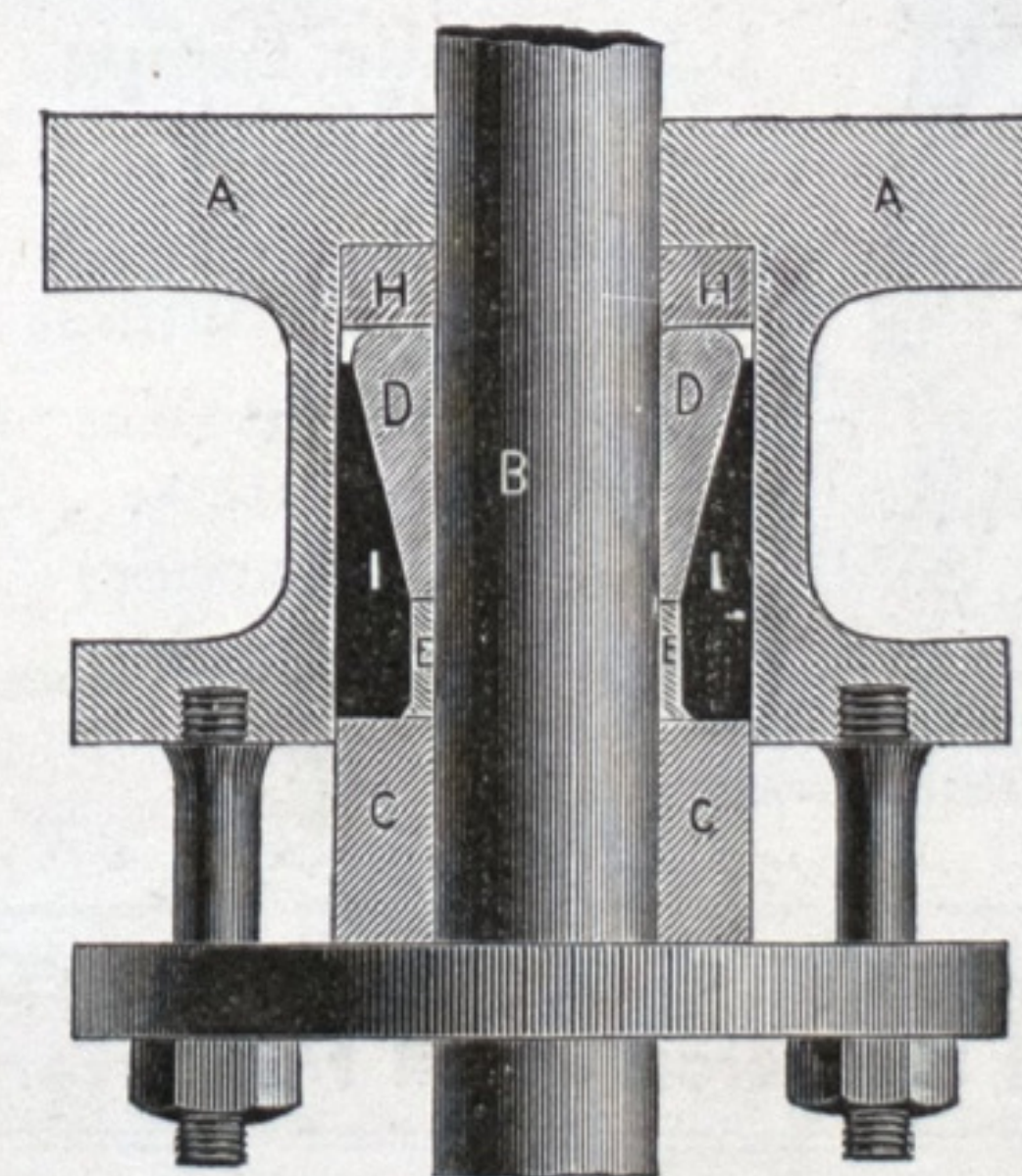
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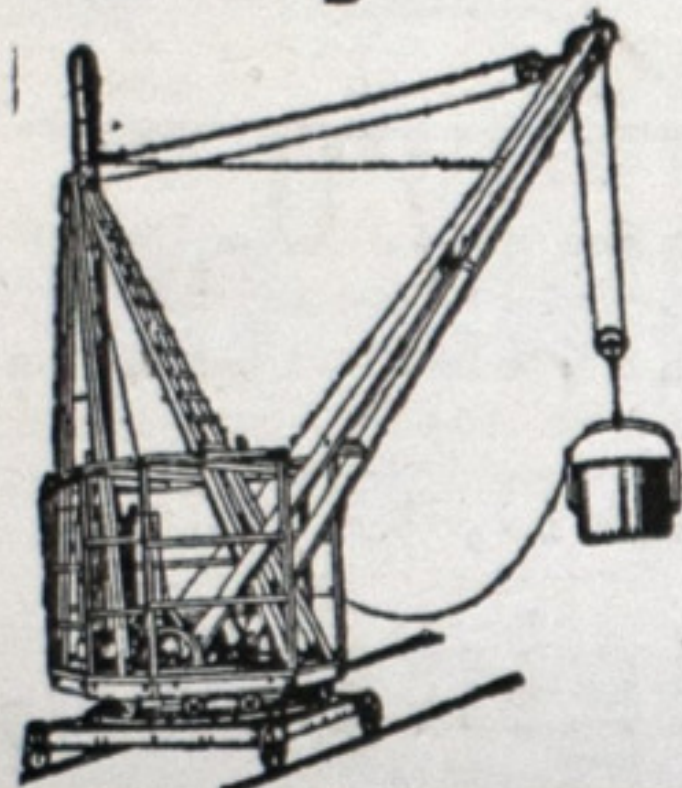
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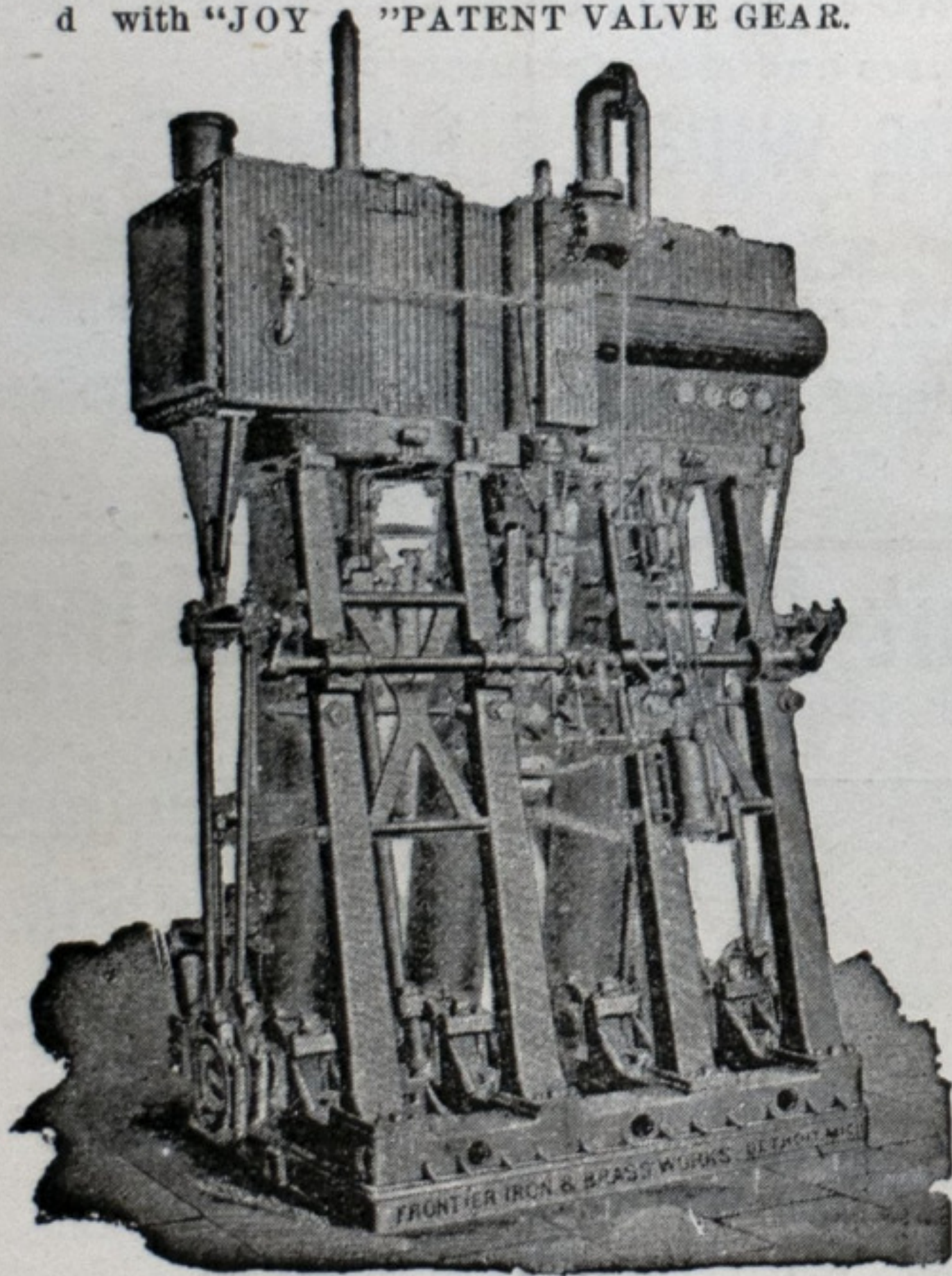
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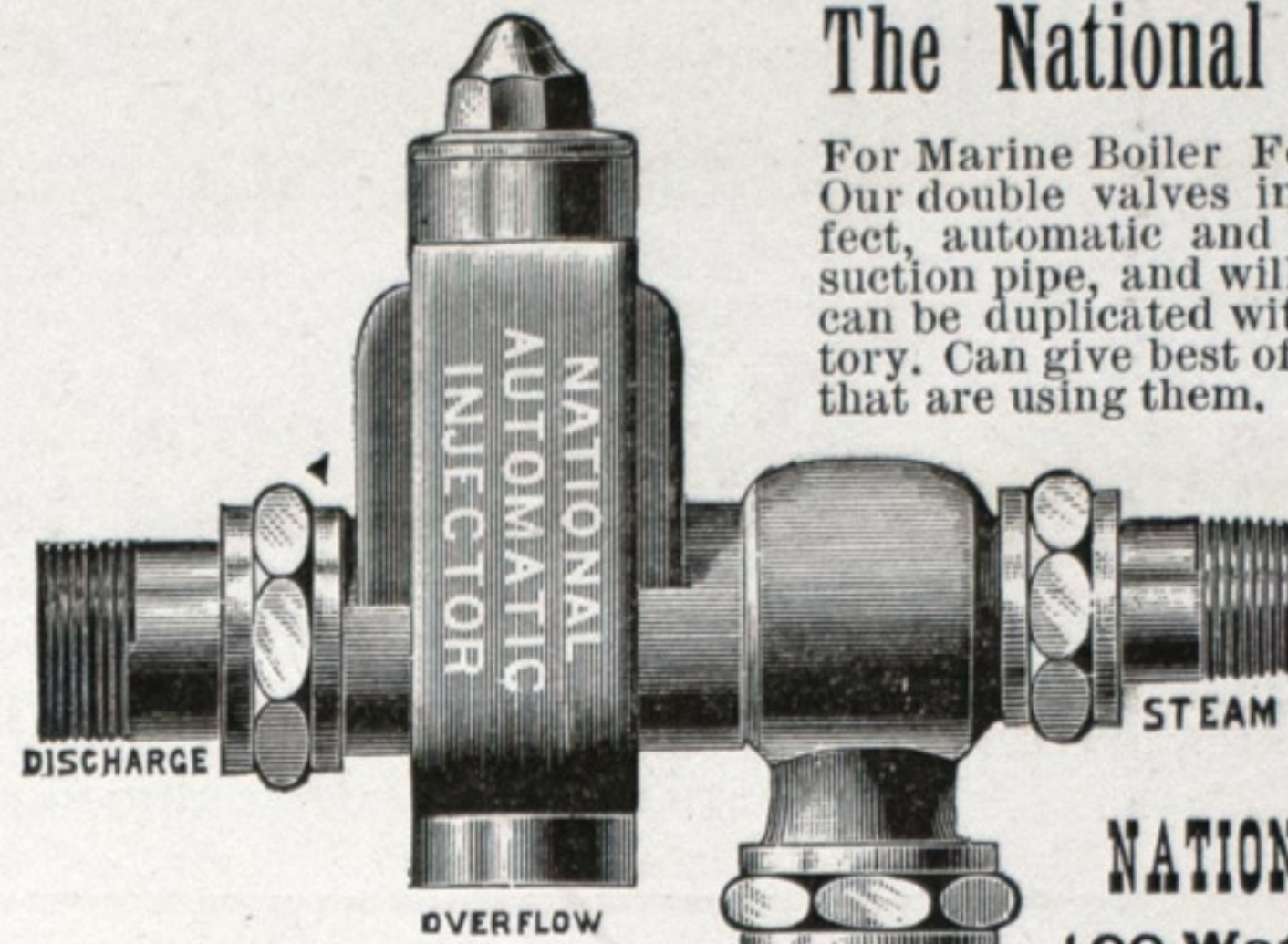
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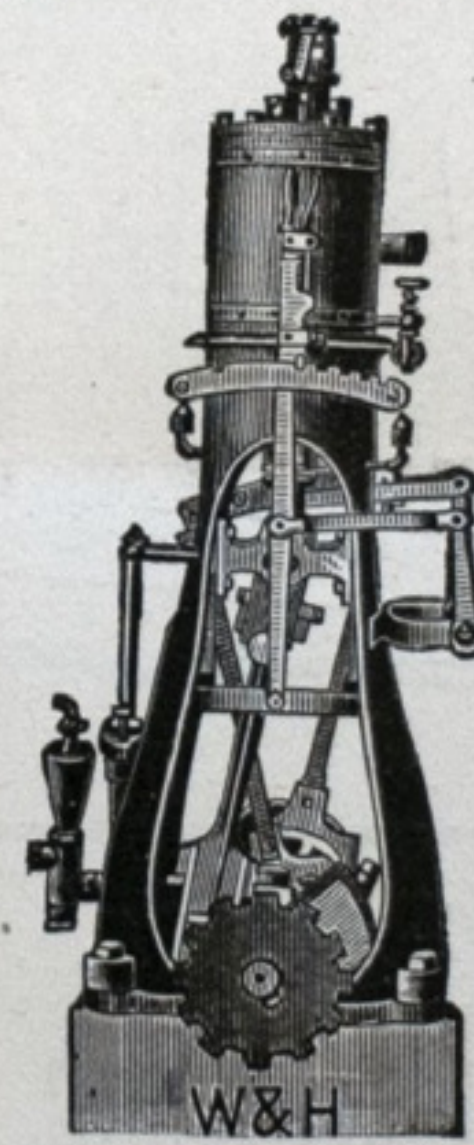
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